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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,804	10/01/2003	Mitsuhiko Sato	CANO:091	3089
37013 7590 10/10/2007 ROSSI, KIMMS & McDOWELL LLP. P.O. BOX 826 ASHBURN, VA 20146-0826			EXAMINER PHAM, HAI CHI	
			ART UNIT 2861	PAPER NUMBER
			MAIL DATE 10/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/676,804	Applicant(s) SATO ET AL.	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE & Amendment filed 08/12/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 6, 9-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 6, 9-11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/12/07 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 2-4, 6, 9-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1:

- The following limitation "in the case where the image formation in the second mode is switched to the image formation in the first mode while the image formation is being carried out in the second mode" at line 9 appears to be ambiguous in that the switching to the first mode, i.e. full color print mode, cannot be physically performed since the printing operation in the back and white mode

is still active. For the purpose of examination, the switching is interpreted as being an act of inquiry for determining whether the next print operation is a full color image print.

Claim 9:

- The following limitation “in the case where the image formation in the second mode is switched to the image formation in the first mode while the image formation is being carried out in the second mode” at line 9 appears to be ambiguous in that the switching to the first mode, i.e. full color print mode, cannot be physically performed since the printing operation in the back and white mode is still active. For the purpose of examination, the switching is interpreted as being an act of inquiry for determining whether the next print operation is a full color image print.

Claims 3-4, 6, 10-11 and 13 are dependent form claims 1 and 9 above and are therefore indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 2-3 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Arai (Pub. No. US 2002/0080220).

Arai discloses an image forming apparatus comprising a plurality of image forming units (4Y, 4M, 4C, 4K, Fig. 1a) that form images, a plurality of scanners (e.g., respective polygon mirrors 434Y, 434M, 434C, 434K) that form images in said plurality of image forming units respectively, a controller that has a first mode (full-color mode) in which said plurality of scanners are driven in synchronism with each other to carry out image formation by said plurality of image forming units (all the polygon mirrors 434Y, 434M, 434C, 434K being operative to form a color image), and a second mode (black and white mode) in which at least one of said plurality of scanners is driven (polygon mirror 434K being activated) to carry out image formation by at least one of said image forming units (only black component including the polygon mirror 434K and the K laser being operative), said controller causing, in the case where the image formation in the second mode is switched to the image formation in the first mode while the image formation is being carried out in the second mode, the scanners not being used for the image formation in the second mode to start preparation for the image formation in the first mode (while in the black and white mode and in the expectation of the next image formation is in full color, all of the polygon mirrors are caused to be driven in the order of 434k, 434Y, 434M and 434C, with the polygon mirror 434K starting first although the remaining polygon mirrors 434Y, 434M and 434C are not being used in the black and white mode, the polygon mirrors 434Y, 434M and 434C are being tied to the printing operation during the black and white mode) (paragraph [0053]).

The method claim 9 is deemed to be clearly anticipated by the functions of the above structures.

With regard to claims 3 and 10, Arai further teaches the image formation in the second mode being monochromatic image formation (i.e., black and white mode), and the image formation in the first mode being image formation in a plurality of colors (i.e., full-color mode).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Gomi et al. (U.S. 6,314,251).

Arai discloses all the basic limitations of the claimed invention except for the first controller starts a preparation for applying high voltage to at least one of said image forming units that is not being used for the image formation in the second mode.

Gomi et al. discloses an image forming apparatus for forming image in a full color mode or a monochromatic mode, wherein during the black monochromatic mode, the magnetic brush chargers (101b, 102b, and 103b) of the other color image forming units are driven so as to apply a high voltage to charge the respective photosensitive

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members (101a, 102a and 103a) on which no image is formed so that smeared color image will be prevented (col. 7, lines 44-56) (col. 10, line 47 through col. 11, line 9).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Arai by applying high voltage to the image forming units that are not being used for the image formation in the monochromatic mode as taught by Gomi et al. for the purpose of preventing the color image being smeared as suggested by Gomi et al.

8. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Oda et al. (U.S. 6,094,208).

Arai discloses all the basic limitations of the claimed invention except for the controller synchronizing the plurality of scanners after the image formation in the second or monochromatic mode is completed.

Oda et al. discloses an image forming apparatus for forming image in a full color mode or a monochromatic mode, wherein upon switching to the full color mode, all the polygon mirrors will be driven in synchronism using the signal from BD sensor (88d) of the laser scanning unit (27d) for recording black image so as to facilitate a quicker and more precise set up and synchronization of the drives of the polygon mirrors in the full color mode (col. 16, lines 9-25).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to synchronize the polygon mirrors in the device of Arai after the completion of the monochromatic mode by using the synchronizing signal

obtained in the monochromatic mode as taught by Oda et al. The motivation for doing so would have been to prevent the misalignment of the plural toner images as well as to facilitate a quicker and more precise set up and synchronization of the drives of the polygon mirrors in the full color mode as suggested by Oda et al.

Response to Arguments

9. Applicant's arguments filed 08/12/07 have been fully considered but they are not persuasive.

The applicant argues that "Arai starts all the polygons to form a ready-to-write condition, regardless whether the first image is in a full color mode or a black and white mode". The examiner would like to point out that the above-mentioned teaching of Arai still reads on the claim limitation as recited in claims 2 and 9 with regard to the second mode where only black and white image is performed, but one or more scanners are being driven, namely, "a second mode in which at least one of said plurality of scanners is driven" (emphasis added), which clearly indicates that more than one scanner are being activated.

The applicant further argues that "Arai thus would not have disclosed or taught start preparing the scanners not being used for the image formation in the second mode for the image formation in the first mode when the image formation in the second mode is switched to the image formation in the first mode while the image formation is being carried out in the second mode". The examiner respectfully disagrees. Arai does teach

the polygons 434Y, 434M and 434C being started, e.g. prepared to be ready for use, in the case where the next print is determined to be a full color print:

The reason why the polygons 434Y, 434M, and 434C are started in the black and white printing is to form a ready-to-write condition for the polygons other than the polygon 434K, for preparing for the possibility that the color image will be formed on the occasion after the first black and white image or on the next but one occasion, even if the first image is black and white. (Emphasis added) (Arai, paragraph [0055]).

Also, it is noted that in the claim limitation “in the case where the image formation in the second mode is switched to the image formation in the first mode while the image formation is being carried out in the second mode” recited in claims 2 and 9, the switching to the first mode, i.e. full color print mode, cannot be physically performed since the printing operation in the black and white mode is still active. The switching is interpreted as being an act of inquiry for determining whether the next print operation is a full color image print. Arai teaches preparing the polygons 434Y, 434M and 434C not in use in the black and white print mode for a predetermined period of time T2 during the black and white print mode. Once it is determined that the full color print mode will not occur within the time period T2, the polygons 434Y, 434M and 434C will stop (see Arai, Fig. 6).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HAI PHAM
PRIMARY EXAMINER

October 1, 2007